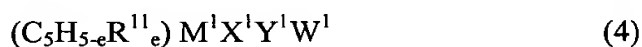
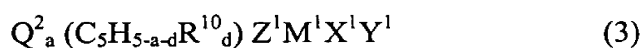
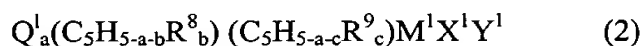


IN THE CLAIMS

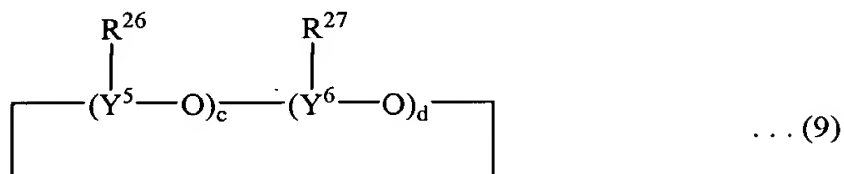
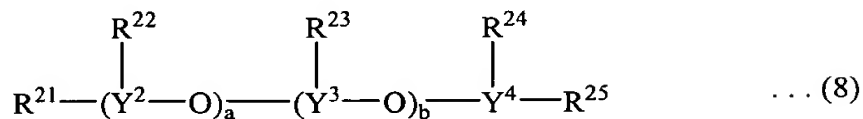
Claim 1 (Currently Amended): A catalyst for copolymerization of olefins and styrenes, which comprises:

(A) a transition metal compound represented by any of the following general formulae (2) to (6):



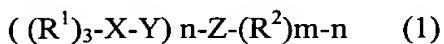
in which  $Q^1$  represents a bonding group that crosslinks the two conjugated five-membered cyclic ligands  $(C_5H_{5-a-b}R^8_b)$  and  $(C_5H_{5-a-c}R^9_c)$ ;  $Q^2$  represents a bonding group that crosslinks the conjugated five-membered cyclic ligand  $(C_5H_{5-a-d}R^{10}_d)$  and the group  $Z^1$ ;  $R^8$ ,  $R^9$ ,  $R^{10}$  and  $R^{11}$  each represent a hydrocarbon group, a halogen atom, an alkoxy group, a silicon-containing hydrocarbon group, a phosphorus-containing hydrocarbon group, a nitrogen-containing hydrocarbon group, or a boron-containing hydrocarbon group; and a plurality of these groups, if any, may be the same or different, and may be bonded to each other to form a cyclic structure; a represents 0, 1 or 2; b, c and d each represent an integer of from 0 to 5 when a = 0, or an integer of from 0 to 4 when a = 1, or an integer of from 0 to 3 when a = 2; e is an integer of from 0 to 5;  $M^1$  represents a transition metal of Groups 4 to 6 of the Periodic Table;  $M^2$  represents a transition metal of Groups 8 to 10 of the Periodic Table;  $L^1$  and  $L^2$  each represent a coordination-bonding ligand;  $X^1$ ,  $Y^1$ ,  $Z^1$ ,  $W^1$  and  $U^1$  each represent a covalent-bonding or ionic-bonding ligand; and  $L^1$ ,  $L^2$ ,  $X^1$ ,  $Y^1$ ,  $Z^1$ ,  $W^1$  and  $U^1$  may be bonded to each other to form a cyclic structure,

(B) an oxygen-containing compound represented by any of the following general formulae (8) to (9):



wherein  $R^{21}$  to  $R^{27}$  each represent an alkyl group having from 1 to 8 carbon atoms and may be the same or different, and  $R^{26}$  and  $R^{27}$  may be the same or different.  $Y^2$  to  $Y^6$  each represent an element of Group 13 of the Periodic Table,  $Y^2$  to  $Y^4$  may be the same or different; and  $Y^5$  and  $Y^6$  may be the same or different,  $a$  to  $d$  each indicates a number of from 0 to 50, but  $(a+b)$  and  $(c+d)$  each must be at least 1,

(C) a compound of a general formula (1):

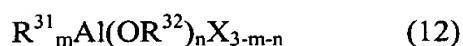


wherein  $R^1$  represents a hydrogen atom, a halogen atom, an aliphatic hydrocarbon group having from 1 to 30 carbon atoms, an aromatic hydrocarbon group having from 6 to 30 carbon atoms, an alkoxy group having from 1 to 30 carbon atoms, an aryloxy group having from 6 to 30 carbon atoms, a thioalkoxy group having from 1 to 30 carbon atoms, a thioaryloxy group having from 6 to 30 carbon atoms, an amino group, an amide group, or a carboxyl group,  $R^1$ 's may be the same or different, and  $R^1$ 's may be optionally bonded to each

~~other to form a cyclic structure~~ a phenyl group; X represents an element of Group 14; Y represents an element of Group 16; Z represents a metal element of Groups 2 to 13;  $R^2$  represents a hydrocarbon group; m is an integer, indicating the valency of the metal element Z; and n is an integer of from 1 to (m-1),

and optionally,

(D) an alkylating agent represented by any of the following general formulae (12) to (14):

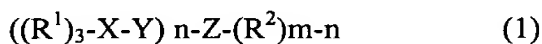


wherein  $R^{31}$  and  $R^{32}$  each represent an alkyl group having from 1 to 8 carbon atoms; X represents a hydrogen atom or a halogen atom,  $0 < m \leq 3$ ,  $0 \leq n < 3$ .

Claim 2 (Withdrawn): A catalyst for copolymerization of olefins and styrenes, which comprises:

(A) a transition metal compound,

(C) a compound of a general formula (1):



wherein  $R^1$  represents a hydrogen atom, a halogen atom, an aliphatic hydrocarbon group having from 1 to 30 carbon atoms, an aromatic hydrocarbon group having from 6 to 30 carbon atoms, an alkoxy group having from 1 to 30 carbon atoms, an aryloxy group having from 6 to 30 carbon atoms, a thioalkoxy group having from 1 to 30 carbon atoms, a thioaryloxy group having from 6 to 30 carbon atoms, an amino group, an amido group, or a carboxyl group,  $R^1$ 's may be the same or different, and  $R^1$ 's may be optionally bonded to each other to form a cyclic structure; X represents an element of Group 14; Y represents an

element of Group 16; Z represents a metal element of Groups 2 to 13;  $R^2$  represents a hydrocarbon group; m is an integer, indicating the valency of the metal element Z; and n is an integer of from 1 to (m-1),

and optionally,

(D) an alkylating agent.

Claim 3 (Previously Presented): The catalyst as claimed in claim 1 for copolymerization of olefins and styrenes, wherein, in (C), X is carbon, Y is oxygen and Z is aluminium.

Claim 4 (Currently Amended): The catalyst as claimed in claim 1 for copolymerization of olefins and styrenes, wherein the compound (C) is a reaction product of <1> at least one selected from compounds of a general formula,  $(R^1)_3-C-OR^3$ ,  $R^4-CO-R^5$  or  $R^6-CO-OR^7$ , with <2> a compound of a general formula,  $Z(R^2)_m$ , wherein  $R^1$  represents a phenyl group,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  each represent a hydrogen atom, a halogen atom, an aliphatic hydrocarbon group having from 1 to 30 carbon atoms, an aromatic hydrocarbon group having from 6 to 30 carbon atoms, an alkoxy group having from 1 to 30 carbon atoms, an aryloxy group having from 6 to 30 carbon atoms, a thioalkoxy group having from 1 to 30 carbon atoms, a thioaryloxy group having from 6 to 30 carbon atoms, an amino group, an amido group, or a carboxyl group, and  $[[R^1,]]$   $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  may be the same or different, and  $[[R^1,]]$   $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  may be optionally bonded to each other to form a cyclic structure; Z represents a metal element of Groups 2 to 13; m is an integer, indicating the valency of the metal element Z; and  $R^2$  represents a hydrocarbon group.

Claim 5 (Withdrawn): A catalyst for copolymerization of olefins and styrenes, which comprises:

(A) a transition metal compound,

(B) an oxygen-containing compound, and/or a compound capable of reacting with a transition metal compound to form an ionic complex,

(C1) at least one selected from compounds of a general formula,  $(R^1)_3-C-OR^3$ ,  $R^4-CO-R^5$  or  $R^6-CO-OR^7$  (In these formulae,  $R^1$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  each represent a hydrogen atom, a halogen atom, an aliphatic hydrocarbon group having from 1 to 30 carbon atoms, an aromatic hydrocarbon group having from 6 to 30 carbon atoms, an alkoxy group having from 1 to 30 carbon atoms, an aryloxy group having from 6 to 30 carbon atoms, a thioalkoxy group having from 1 to 30 carbon atoms, a thioaryloxy group having from 6 to 30 carbon atoms, an amino group, an amido group, or a carboxyl group, and  $R^1$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  may be the same different, and  $R^1$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  may be optionally bonded to each other to form a cyclic structure.)

(C2) a compound of a general formula,  $Z(R^2)_m$ . (In this formula; Z represents a metal element of Groups 2 to 13; m is an integer, indicating the valency of the metal element Z; and  $R^2$  represents a hydrocarbon group, and optionally,

(D) an alkylating agent.

Claim 6 (Withdrawn): A catalyst for copolymerization of olefins and styrenes, which comprises:

(A) a transition metal compound,

(C1) at least one selected from compounds of a general formula,  $(R^1)_3-C-OR^3$ ,  $R^4-CO-R^5$  or  $R^6-CO-OR^7$  (In these formulae,  $R^1$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  each represent a hydrogen

atom, a halogen atom, an aliphatic hydrocarbon group having from 1 to 30 carbon atoms, an aromatic hydrocarbon group having from 6 to 30 carbon atoms, an alkoxy group having from 1 to 30 carbon atoms, an thioaryloxy group having from 6 to 30 carbon atoms, a thioalkoxy group having from 1 to 30 carbon atoms, a thioaryloxy group having from 6 to 30 carbon atoms, an amino group, an amido group, or a carboxyl group, and  $R^1$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  may be the same or different, and  $R^1$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  maybe optionally bonded to each other to form a cyclic structure.

(C2) a compound of a general formula,  $Z(R^2)_m$ , wherein Z represents a metal element of Groups 2 to 13; m is a integer, indicating the valency of the metal element Z; and  $R^2$  represents a hydrocarbon group,

and optionally,

(D) an alkylating agent.

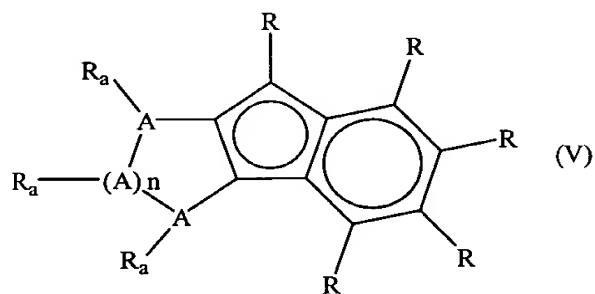
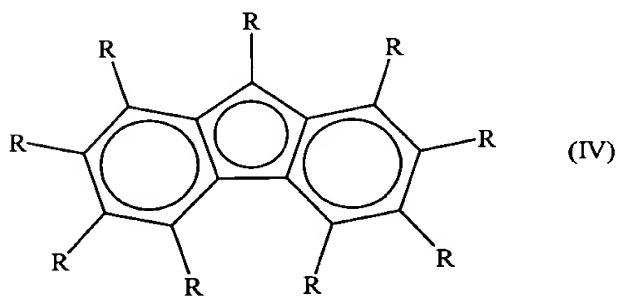
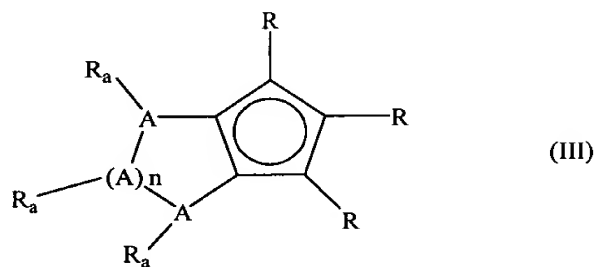
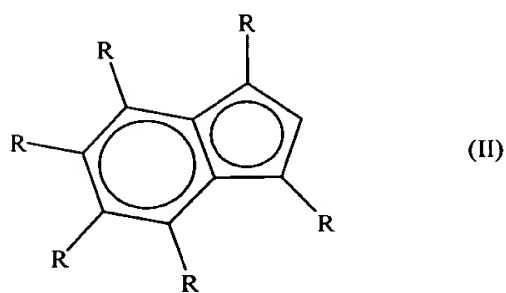
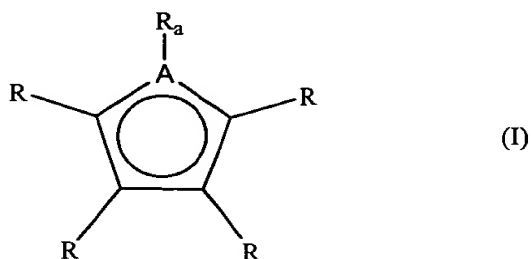
Claims 7-9 (Canceled).

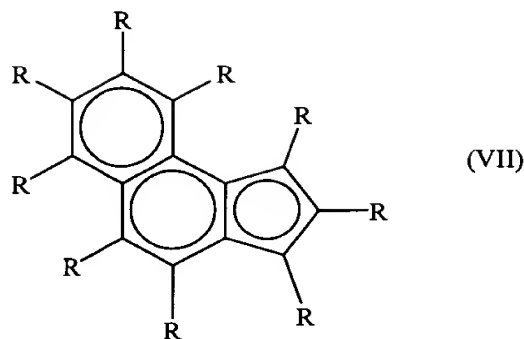
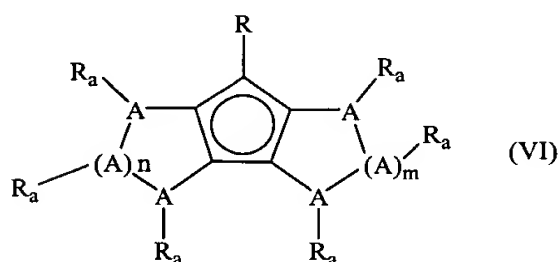
Claim 10 (Previously Presented): The catalyst as claimed in claim 1 for copolymerization of olefins and styrenes, wherein  $R^2$  is an alkyl group having at least 2 carbon atoms.

Claim 11 (Previously Presented): The catalyst as claimed in claim 4 for copolymerization of olefins and styrenes, wherein Z is aluminium.

Claim 12 (Canceled).

Claim 13 (Previously Presented): The catalyst as claimed in claim 1 for copolymerization of olefins and styrenes, wherein, in the transition metal compound (A) of formula (4), the group  $(C_5H_5-eR^{11})_e$  is represented by any of the following general formulae (I) to (VII):





wherein A represents an element of Group 13, 14, 15 or 16, and plural A's may be the same or different; R represents a hydrogen atom, a halogen atom, an aliphatic hydrocarbon group having from 1 to 30 carbon atoms, an aromatic hydrocarbon group having from 6 to 30 carbon atoms, an alkoxy group having from 1 to 30 carbon atoms, an aryloxy group having from 6 to 30 carbon atoms, a thioalkoxy group having from 1 to 30 carbon atoms, a thioaryloxy group having from 6 to 30 carbon atoms, an amino group, an amido group, a carboxyl group, or an alkylsilyl or alkylsilylalkyl group having from 3 to 30 carbon atoms, and R's may be the same or different, and may be optionally bonded to each other to form a cyclic structure; a represents 0, 1 or 2; and n and m each represent an integer of at least 1.

**Claim 14 (Previously Presented):** A method for producing olefin-styrene copolymers, which comprises polymerizing olefins and styrenes in the presence of the copolymerization catalyst of claim 1.

**Claim 15 (Withdrawn):** The catalyst as claimed in claim 2 for copolymerization of olefins and styrenes, wherein, in (C), X is carbon, Y is oxygen and Z is aluminium.



Claim 16 (Withdrawn): The catalyst as claimed in claim 2 for copolymerization of olefins and styrenes, wherein the compound (C) is a reaction product of <1> at least one selected from compounds of a general formula,  $(R^1)_3-C-OR^3$ ,  $R^4-CO-R^5$  or  $R^6-CO-OR^7$ , with <2> a compound of a general formula,  $Z(R^2)_m$ . (In these formulae,  $R^1$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  each represent a hydrogen atom, a halogen atom, an aliphatic hydrocarbon group having from 1 to 30 carbon atoms, an aromatic hydrocarbon group having from 6 to 30 carbon atoms, an alkoxy group having from 1 to 30 carbon atoms, an aryloxy group having from 6 to 30 carbon atoms, a thioalkoxy group having from 1 to 30 carbon atoms, a thioaryloxy group having from 6 to 30 carbon atoms, an amino group, an amido group, or a carboxyl group, and  $R^1$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  may be the same or different, and  $R^1$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$  and  $R^7$  may be optionally bonded to each other to form a cyclic structure; Z represents a metal element of Groups 2 to 13; m is an integer, indicating the valency of the metal element Z; and  $R^2$  represents a hydrocarbon group.)

Claim 17 (Withdrawn): The catalyst as claimed in claim 2 for copolymerization of olefins and styrenes, wherein at least one of three  $R^1$ 's is an aromatic hydrocarbon group having from 6 to 30 carbon atoms.

Claim 18 (Withdrawn): The catalyst as claimed in claim 5 for copolymerization of olefins and styrenes, wherein at least one of three  $R^1$ 's is an aromatic hydrocarbon group having from 6 to 30 carbon atoms.

Claim 19 (Withdrawn): The catalyst as claimed in claim 6 for copolymerization of olefins and styrenes, wherein at least one of three  $R^1$ 's is an aromatic hydrocarbon group having from 6 to 30 carbon atoms.

Claim 20 (Withdrawn): The catalyst as claimed in claim 2 for copolymerization of olefins and styrenes, wherein three R<sup>1</sup>'s are all aromatic hydrocarbon groups each having from 6 to 30 carbon atoms.

Claim 21 (Withdrawn): The catalyst as claimed in claim 5 for copolymerization of olefins and styrenes, wherein three R<sup>1</sup>'s are all aromatic hydrocarbon groups each having from 6 to 30 carbon atoms.

Claim 22 (Withdrawn): The catalyst as claimed in claim 6 for copolymerization of olefins and styrenes, wherein three R<sup>1</sup>'s are all aromatic hydrocarbon groups each having from 6 to 30 carbon atoms.

Claim 23 (Withdrawn): The catalyst as claimed in claim 2 for copolymerization of olefins and styrenes, wherein three R<sup>1</sup>'s are all phenyl groups.

Claim 24 (Withdrawn): The catalyst as claimed in claim 5 for copolymerization of olefins and styrenes, wherein three R<sup>1</sup>'s are all phenyl groups.

Claim 25 (Withdrawn): The catalyst as claimed in claim 6 for copolymerization of olefins and styrenes, wherein three R<sup>1</sup>'s are all phenyl groups.

Claim 26 (Withdrawn): The catalyst as claimed in claim 2 for copolymerization of olefins and styrenes, wherein R<sup>2</sup> is an alkyl group having at least 2 carbon atoms.

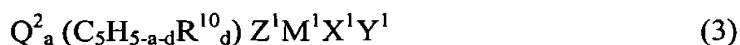
Claim 27 (Withdrawn): The catalyst as claimed in claim 5 for copolymerization of olefins and styrenes, wherein  $R^2$  is an alkyl group having at least 2 carbon atoms.

Claim 28 (Withdrawn): The catalyst as claimed in claim 6 for copolymerization of olefins and styrenes, wherein  $R^2$  is an alkyl group having at least 2 carbon atoms.

Claim 29 (Withdrawn): The catalyst as claimed in claim 5 for copolymerization of olefins and styrenes, wherein Z is aluminium.

Claim 30 (Withdrawn): The catalyst as claimed in claim 6 for copolymerization of olefins and styrenes, wherein Z is aluminium.

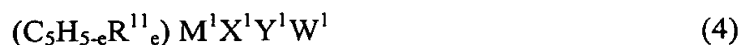
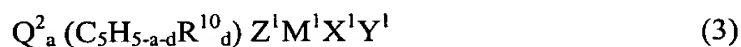
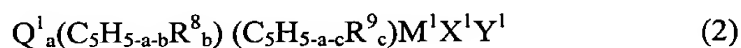
Claim 31 (Withdrawn): The catalyst as claimed in claim 2 for copolymerization of olefins and styrenes, wherein the transition metal compound (A) is represented by any of the following general formulae (2) to (6):



in which  $Q^1$  represents a bonding group that crosslinks the two conjugated five-membered cyclic ligands  $(C_5H_{5-a-b}R^8_b)$  and  $(C_5H_{5-a-c}R^9_c)$ ;  $Q^2$  represents a bonding group that crosslinks the conjugated five-membered cyclic ligand  $(C_5H_{5-a-d}R^{10}_d)$  and the group  $Z^1$ ;  $R^8$ ,  $R^9$ ,  $R^{10}$  and  $R^{11}$  each represent a hydrocarbon group, a halogen atom, an alkoxy group, a silicon-containing hydrocarbon group, a phosphorus-containing hydrocarbon group, a nitrogen-

containing hydrocarbon group, or a boron-containing hydrocarbon group; and a plurality of these groups, if any, may be the same or different, and may be bonded to each other to form a cyclic structure; a represents 0, 1 or 2; b, c and d each represent an integer of from 0 to 5 when a = 0, or an integer of from 0 to 4 when a = 1, or an integer of from 0 to 3 when a = 2; e is an integer of from 0 to 5; M<sup>1</sup> represents a transition metal of Groups 4 to 6 of the Periodic Table; M<sup>2</sup> represents a transition metal of Groups 8 to 10 of the Periodic Table; L<sup>1</sup> and L<sup>2</sup> each represent a coordination-bonding ligand; X<sup>1</sup>, Y<sup>1</sup>, Z<sup>1</sup>, W<sup>1</sup> and U<sup>1</sup> each represent a covalent-bonding or ionic-bonding ligand; and L<sup>1</sup>, L<sup>2</sup>, X<sup>1</sup>, Y<sup>1</sup>, Z<sup>1</sup>, W<sup>1</sup> and U<sup>1</sup> may be bonded to each other to form a cyclic structure.

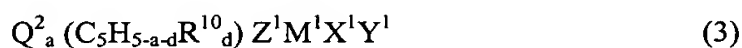
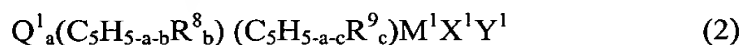
Claim 32 (Withdrawn): The catalyst as claimed in claim 5 for copolymerization of olefins and styrenes, wherein the transition metal compound (A) is represented by any of the following general formulae (2) to (6):



in which Q<sup>1</sup> represents a bonding group that crosslinks the two conjugated five-membered cyclic ligands (C<sub>5</sub>H<sub>5-a-b</sub>R<sup>8</sup><sub>b</sub>) and (C<sub>5</sub>H<sub>5-a-c</sub>R<sup>9</sup><sub>c</sub>); Q<sup>2</sup> represents a bonding group that crosslinks the conjugated five-membered cyclic ligand (C<sub>5</sub>H<sub>5-a-d</sub>R<sup>10</sup><sub>d</sub>) and the group Z<sup>1</sup>; R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> each represent a hydrocarbon group, a halogen atom, an alkoxy group, a silicon-containing hydrocarbon group, a phosphorus-containing hydrocarbon group, a nitrogen-containing hydrocarbon group, or a boron-containing hydrocarbon group; and a plurality of these groups, if any, may be the same or different, and may be bonded to each other to form a

cyclic structure; a represents 0, 1 or 2; b, c and d each represent an integer of from 0 to 5 when a = 0, or an integer of from 0 to 4 when a = 1, or an integer of from 0 to 3 when a = 2; e is an integer of from 0 to 5; M<sup>1</sup> represents a transition metal of Groups 4 to 6 of the Periodic Table; M<sup>2</sup> represents a transition metal of Groups 8 to 10 of the Periodic Table; L<sup>1</sup> and L<sup>2</sup> each represent a coordination-bonding ligand; X<sup>1</sup>, Y<sup>1</sup>, Z<sup>1</sup>, W<sup>1</sup> and U<sup>1</sup> each represent a covalent-bonding or ionic-bonding ligand; and L<sup>1</sup>, L<sup>2</sup>, X<sup>1</sup>, Y<sup>1</sup>, Z<sup>1</sup>, W<sup>1</sup> and U<sup>1</sup> may be bonded to each other to form a cyclic structure.

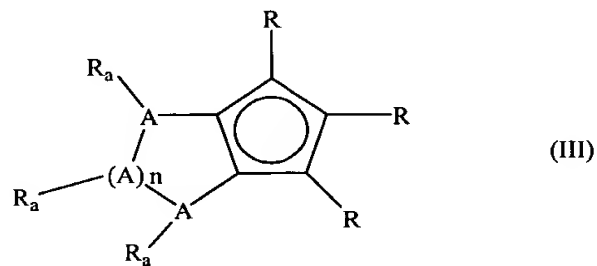
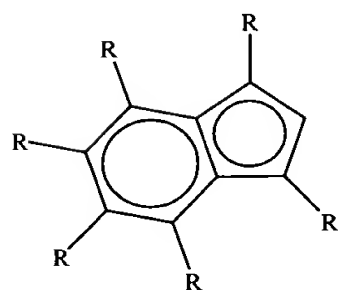
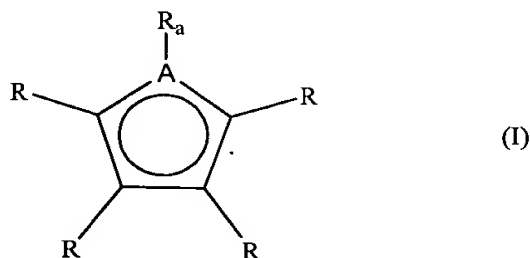
Claim 33 (Withdrawn): The catalyst as claimed in claim 6 for copolymerization of olefins and styrenes, wherein the transition metal compound (A) is represented by any of the following general formulae (2) to (6):

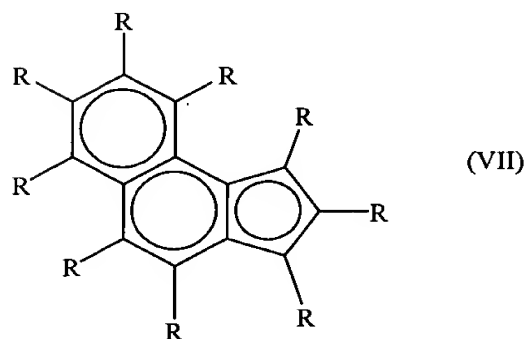
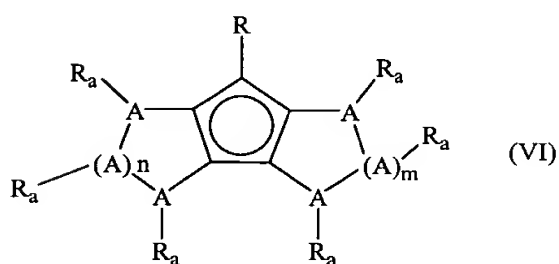
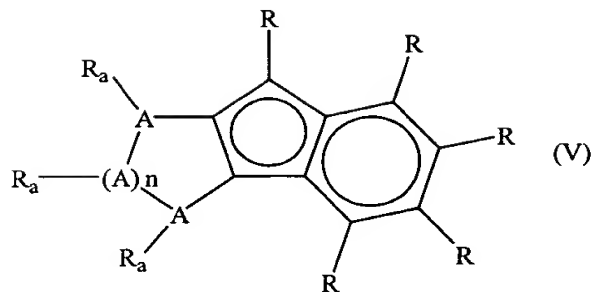
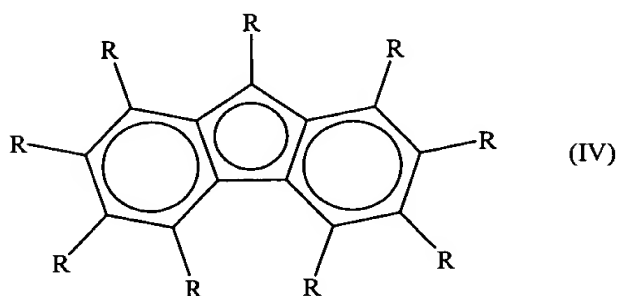


in which Q<sup>1</sup> represents a bonding group that crosslinks the two conjugated five-membered cyclic ligands (C<sub>5</sub>H<sub>5-a-b</sub>R<sup>8</sup><sub>b</sub>) and (C<sub>5</sub>H<sub>5-a-c</sub>R<sup>9</sup><sub>c</sub>); Q<sup>2</sup> represents a bonding group that crosslinks the conjugated five-membered cyclic ligand (C<sub>5</sub>H<sub>5-a-d</sub>R<sup>10</sup><sub>d</sub>) and the group Z<sup>1</sup>; R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> each represent a hydrocarbon group, a halogen atom, an alkoxy group, a silicon-containing hydrocarbon group, a phosphorus-containing hydrocarbon group, a nitrogen-containing hydrocarbon group, or a boron-containing hydrocarbon group; and a plurality of these groups, if any, may be the same or different, and may be bonded to each other to form a cyclic structure; a represents 0, 1 or 2; b, c and d each represent an integer of from 0 to 5 when a = 0, or an integer of from 0 to 4 when a = 1, or an integer of from 0 to 3 when a = 2; e

is an integer of from 0 to 5;  $M^1$  represents a transition metal of Groups 4 to 6 of the Periodic Table;  $M^2$  represents a transition metal of Groups 8 to 10 of the Periodic Table;  $L^1$  and  $L^2$  each represent a coordination-bonding ligand;  $X^1$ ,  $Y^1$ ,  $Z^1$ ,  $W^1$  and  $U^1$  each represent a covalent-bonding or ionic-bonding ligand; and  $L^1$ ,  $L^2$ ,  $X^1$ ,  $Y^1$ ,  $Z^1$ ,  $W^1$  and  $U^1$  may be bonded to each other to form a cyclic structure.

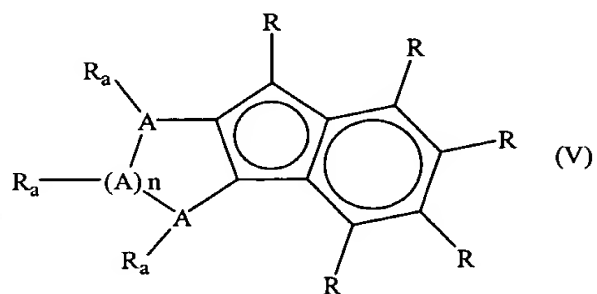
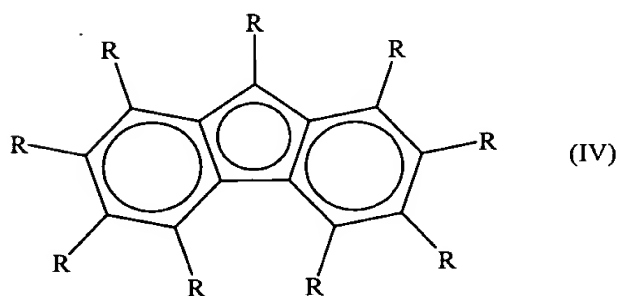
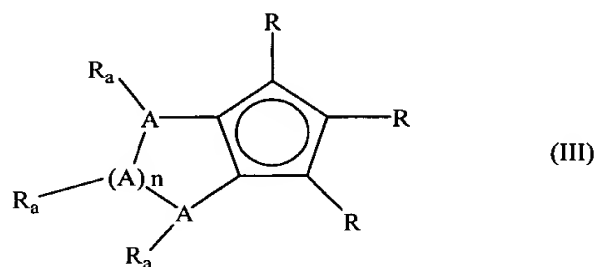
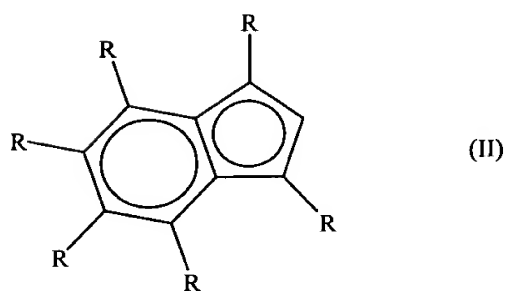
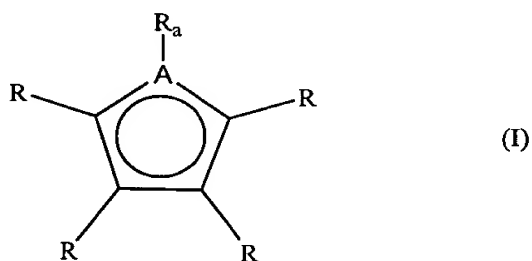
Claim 34 (Withdrawn): The catalyst as claimed in claim 2 for copolymerization of olefins and styrenes, wherein, in the transition metal compound (A) of formula (4), the group  $(C_5H_5-eR^{11})_e$  is represented by any of the following general formulae (I) to (VII):



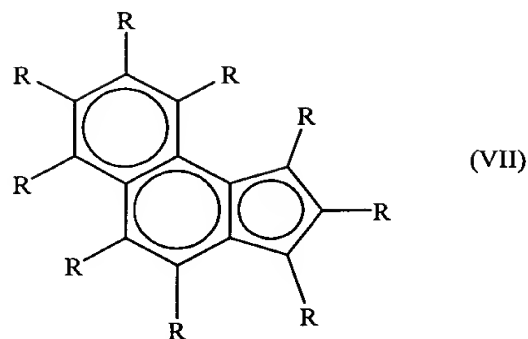
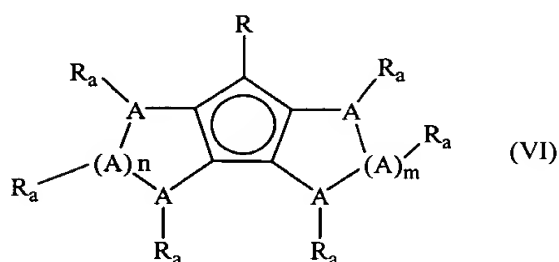


wherein A represents an element of Group 13, 14, 15 or 16, and plural A's may be the same or different; R represents a hydrogen atom, a halogen atom, an aliphatic hydrocarbon group having from 1 to 30 carbon atoms, an aromatic hydrocarbon group having from 6 to 30 carbon atoms, an alkoxy group having from 1 to 30 carbon atoms, an aryloxy group having from 6 to 30 carbon atoms, a thioalkoxy group having from 1 to 30 carbon atoms, a thioaryloxy group having from 6 to 30 carbon atoms, an amino group, an amido group, a carboxyl group, or an alkylsilyl or alkylsilylalkyl group having from 3 to 30 carbon atoms, and R's may be the same or different, and may be optionally bonded to each other to form a cyclic structure; a represents 0, 1 or 2; and n and m each represent an integer of at least 1.

Claim 35 (Withdrawn): The catalyst as claimed in claim 5 for copolymerization of olefins and styrenes, wherein, in the transition metal compound (A) of formula (4), the group  $(C_5H_5-eR^{11})_e$  is represented by any of the following general formulae (I) to (VII):

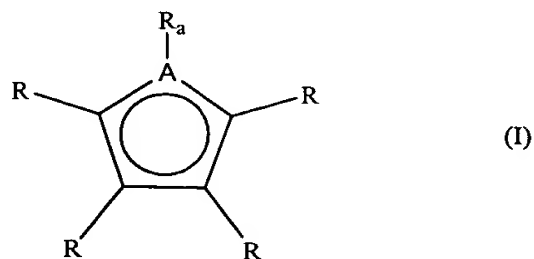


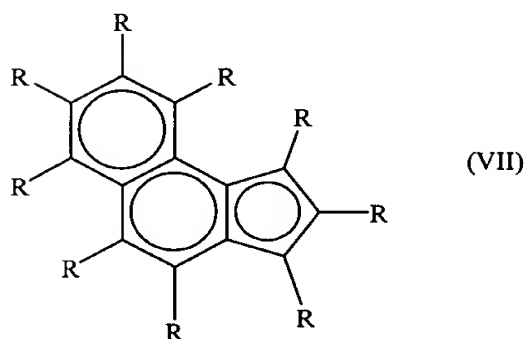
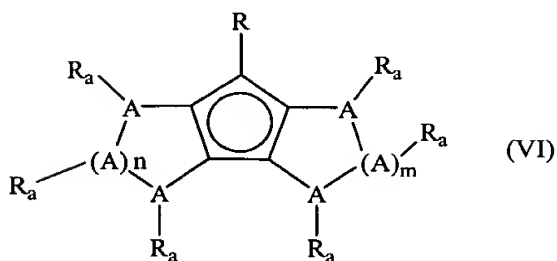
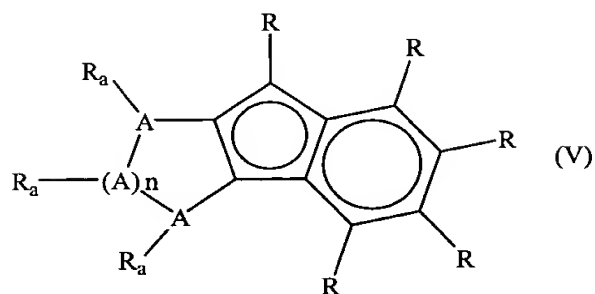
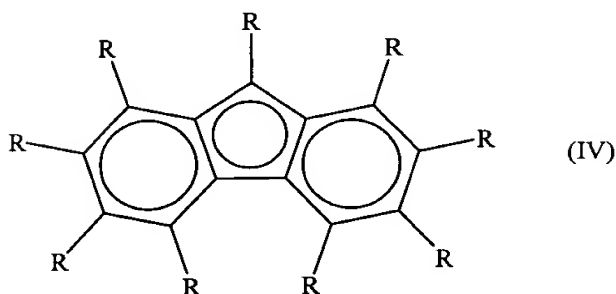
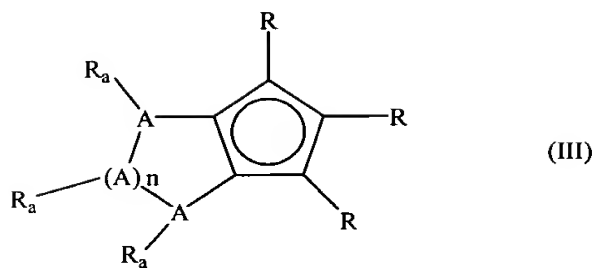
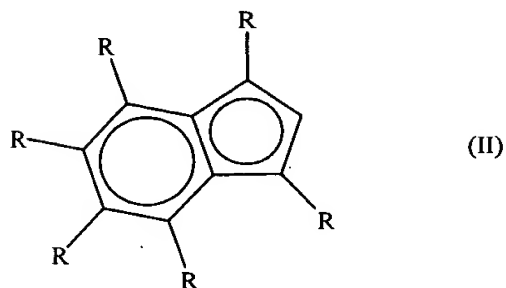




wherein A represents an element of Group 13, 14, 15 or 16, and plural A's may be the same or different; R represents a hydrogen atom, a halogen atom, an aliphatic hydrocarbon group having from 1 to 30 carbon atoms, an aromatic hydrocarbon group having from 6 to 30 carbon atoms, an alkoxy group having from 1 to 30 carbon atoms, an aryloxy group having from 6 to 30 carbon atoms, a thioalkoxy group having from 1 to 30 carbon atoms, a thioaryloxy group having from 6 to 30 carbon atoms, an amino group, an amido group, a carboxyl group, or an alkylsilyl or alkylsilylalkyl group having from 3 to 30 carbon atoms, and R's may be the same or different, and may be optionally bonded to each other to form a cyclic structure; a represents 0, 1 or 2; and n and m each represent an integer of at least 1.

Claim 36 (Withdrawn): The catalyst as claimed in claim 6 for copolymerization of olefins and styrenes, wherein, in the transition metal compound (A) of formula (4), the group  $(C_5H_5-eR^{11})_e$  is represented by any of the following general formulae (I) to (VII):





wherein A represents an element of Group 13, 14, 15 or 16, and plural A's may be the same or different; R represents a hydrogen atom, a halogen atom, an aliphatic hydrocarbon group having from 1 to 30 carbon atoms, an aromatic hydrocarbon group having from 6 to 30 carbon atoms, an alkoxy group having from 1 to 30 carbon atoms, an aryloxy group having from 6 to 30 carbon atoms, a thioalkoxy group having from 1 to 30 carbon atoms, a

thioaryloxy group having from 6 to 30 carbon atoms, an amino group, an amido group, a carboxyl group, or an alkylsilyl or alkylsilylalkyl group having from 3 to 30 carbon atoms, and R's may be the same or different, and may be optionally bonded to each other to form a cyclic structure; a represents 0, 1 or 2; and n and m each represent an integer of at least 1.

Claim 37 (Withdrawn): A method for producing olefin-styrene copolymers, which comprises polymerizing olefins and styrenes in the presence of the copolymerization catalyst of claim 2.

Claim 38 (Withdrawn): A method for producing olefin-styrene copolymers, which comprises polymerizing olefins and styrenes in the presence of the copolymerization catalyst of claim 5.

Claim 39 (Withdrawn): A method for producing olefin-styrene copolymers, which comprises polymerizing olefins and styrenes in the presence of the copolymerization catalyst of claim 6.

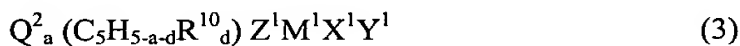
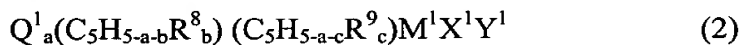
DISCUSSION OF THE AMENDMENT

Claims 1 and 4 have been amended by limiting R<sup>1</sup> to a phenyl group. Claims 7-9 have been cancelled as redundant.

No new matter has been added by the above amendment. Claims 1, 3, 4, 10, 11, 13 and 14 are now active; Claims 2, 5, 6 and 15-39 stand withdrawn from consideration.

ELECTION OF SPECIES

The Examiner has required an election of species under 35 U.S.C. §121 from among the transition metal compound as follows:



Applicants elect **with traverse** species (4), i.e.,  $(C_5H_{5-e}R^{11}_e)M^1X^1Y^1W^1$ .

Claims 1, 3, 4, 10, 11, 13 and 14 all read on the elected species.

The Examiner bases the above election of species on the ground that the claims cover patentably distinct species. Under MPEP § 803, the burden is on the Examiner to support any conclusion in regard to patentable distinctness. The Examiner has offered no reasons and/or examples to support the conclusion of patentable distinctness between the species for the transition metal compound.

Moreover, MPEP § 803.02 states:

If the numbers of the Markush group are sufficiently few in number or so closely related that a search and examination of the entire claim can be made without serious burden, the Examiner **must** examine all claims on the merits, even though they are directed to independent and distinct inventions.

(Emphasis added.) It would not appear to pose a serious burden for the Examiner to search and examine all of the above species.

In view of the above, it is respectfully requested that the election of species requirement be withdrawn, and that a search and examination of the entire subject matter embraced by the present claims be conducted.

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Otherwise, Applicants note that should no prior art be found that anticipates or renders obvious the elected species, the search of the Markush-type claim will be extended. MPEP § 803.02.